

Claims

1. A multilayer circuit comprising a flexible sheet of insulating material having two sides, wherein sections of electrical circuit are attached to both of said two sides, wherein said flexible sheet is folded along folding lines, which divide said flexible sheet into consecutive segments, in order to form a multilayer structure having conductor layers and insulator layers stacked above each other, wherein at least two consecutive sections of electric circuit that must be insulated from each other are disposed on different sides of said flexible sheet.

2. The circuit of claim 1 wherein consecutive sections of electric circuit that must be insulated from each other are insulated by one single ply of said flexible sheet.

3. The circuit of claim 2, wherein consecutive sections of electric circuit that must be insulated from each other lie on opposite sides of said folding flexible sheet, on adjacent segments of said flexible sheet.

20 4. The circuit of claim 2, wherein sections of electric circuit that must not be insulated from each other lie on the same side of said folding flexible sheet, on adjacent segments of said flexible sheet.

25 5. The circuit of claim 2, comprising electrical connection means between said conductor layers.

6. The circuit of claim 5, further comprising apertures in said flexible sheet in correspondence with said electrical connection means.

7. The circuit of claim 5, wherein said electrical connection means is a rivet.

8. The circuit of claim 5, wherein said electrical connection means is a solder joint or a solder layer.

5 9. The circuit of claim 2, wherein said conductor layer has at a discontinuity in correspondence with the folding lines, in order to guide the folding.

10. The circuit of claim 2, including magnetic and/or electric and/or electronic components.

10 11. The circuit of claim 10, wherein said components are inside said multilayer structure.

12. The circuit of claim 2, including cavity and apertures.

13. The circuit of claim 2, configured to form an
15 inductor or an electrical transformer or an electrical filter.

14. A method of manufacturing a multilayer circuit, comprising the steps of:

- obtaining a conductor-insulator-conductor
20 laminate having a central insulator flexible sheet and carrying circuit segments on both sides of said flexible sheet in a fashion that consecutive sections of electric circuit that must be insulated from each other are disposed on different sides of said flexible sheet; and,
25 - folding said laminate along folding lines, which divide said flexible sheet into consecutive segments, in order to form a multilayer structure having

conductor layers and insulator layers stacked above each other.

15. The method of claim 14, wherein said step of obtaining said conductor-insulator-conductor laminate 5 further comprises the step of selectively removing conductor areas from said conductor-insulator-conductor laminate.

16. The method of claim 14, wherein said step of obtaining said conductor-insulator-conductor laminate 10 further comprises the steps of:
- cutting a sheet of conductive material into a predefined pattern;
- laminating said predefined pattern of conductive material on a sheet of a flexible insulator.

15 17. The method of claim 14, further comprising the steps of:
- creating apertures in said flexible sheet, in correspondence to places where said sections of electric circuit must be joined;
20 - placing electrical connection means to join said sections of electric circuit in said apertures.

18. The method of claim 17, wherein said electrical connection means is a solder layer and further comprising the step of melting said solder to obtain an electrical 25 connection.

19. The method of claim 14, wherein several of said multilayer circuits are formed at the same time from said laminate.

20. The method of claim 14, wherein the laminate is guided through the different process steps as a continuous strip.